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Research in how the Rorschach Inkblot Test has been utilized in the assessment of object relations is reviewed. The review includes a critical examination of six areas: (1) constructs and concepts of object-relations theory represented in the research; (2) relevant Rorschach history and history; (3) characteristics of Rorschach-based, object-relations scales that have been developed; (4) validity studies of Rorschach-based scales; (5) diagnostic studies with Rorschach-based scales; and (6) the place of Exner's Comprehensive System in the assessment of object-relations. Emphasis is placed on reliability and validity issues of two prominent Rorschach-based, object-relations scales. Due to characteristics of these scales, of the research as a whole, and of Exner's Comprehensive System, the review concludes with a proposal on how the Comprehensive System can interface with Rorschach and object-relations research. Such an interfacing is proposed so that object-relations assessment can be brought more into the mainstream of popular Rorschach use. It is also proposed for the more exhaustive utilization of the instrument, with resulting benefits for diagnosis and treatment. (Contains 85 references.) (Author/AA)

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THE USE OF THE RORSCHACH INKBLOT TEST IN THE ASSESSMENT OF OBJECT RELATIONS: A REVIEW OF THE LITERATURE

A Doctoral Research Paper

Presented to

the Faculty of the Rosemead School of Psychology

Biola University

In Partial Fulfillment

of the Requirements for the Degree

Doctor of Psychology

by

Hope Lynette Gosselin

October 1992

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by

Hope Lynette Gosselin

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The Use of the Rorschach Inkblot Test in the Assessment of Object-Relations: A Review of the Literature

Purpose and Introductory Preview

The assessment of object-relations is a topic that has been increasingly researched in the past two decades. The research has been varied and complex, and understanding this body of research would likely be a challenging and fruitful endeavor for the clinician. The purpose of this paper is to review a portion of the research that has been done, particularly research on how the Rorschach Inkblot Test has been used in the assessment of object-relations. The author's intent is to provide a review of empirical literature that is distinctive from prior reviews on this topic in several ways. First, methodological issues receive more detailed consideration. Second, studies with the Rorschach receive exclusive and more thorough attention. Third, and most uniquely, the dominant system for the Rorschach (Howard, 1989; Leiter, 1989)--Exner's Comprehensive System--is addressed in conjunction with the literature on the Rorschach and the assessment of object-relations, which derives from yet another system.

Several other reviews have been done and are currently available. Most recently, Stricker and Healey (1990) reviewed empirical studies on the projective assessment of object-relations. In contrast to the present review which deals only with the Rorschach, these authors reviewed all projective instruments that have been used to assess object-relations. Stricker and Healey provided an important broad picture of this research area.

Furthermore, they provided critical validity and reliability information on the instruments. In their final analysis, Stricker and Healey concluded that the current, early state of the research calls for a multi-method approach to the assessment of object-relations. Whereas Stricker and Healey provided a useful overview, it is the present author's opinion that studies with the Rorschach test could be dealt with more thoroughly. In another review, Bell, Billington, and Becker (1986) considered the literature on objective means for the assessment of object-relations. Whereas objective measures of object-relations are of significant interest and value, the studies involving the Rorschach are abundant enough that it is beyond the scope of this review to deal with such other measures as Bell et al. have already considered. Lastly, there are several other works that are important to mention, as they have each furthered the area of the assessment of object-relations. In each of these works more attention was given to theoretical issues than is given in the present review. Kwawer, Lerner, Lerner, and Sugarman (1980) focussed specifically on the Borderline diagnosis in Borderline Phenomena and the Rorschach Test. Kissen (1986) dealt with a broader spectrum of the literature in his volume, Assessing Object-Relations Phenomena. Lastly, Lerner and Lerner's (1988) Primitive Mental States and the Rorschach was a revised edition of Kwawer et al.'s earlier work.

In addition, only literature involving the Rorschach Test is reviewed for the following reasons. First, the Rorschach is a popular and widely used assessment instrument (Piotrowski, Sherry, & Meller, 1985), and it is conceivable that many clinicians would be interested in applying the instrument to the assessment of object-relations. Second, the Rorschach has

Furthermore, they provided critical validity and reliability information on the instruments. In their final analysis, Stricker and Healey concluded that the current, early state of the research calls for a multi-method approach to the assessment of object-relations. Whereas Stricker and Healey provided a useful overview, it is the present author's opinion that studies with the Rorschach test could be dealt with more thoroughly. In another review, Bell, Billington, and Becker (1986) considered the literature on objective means for the assessment of object-relations. Whereas objective measures of object-relations are of significant interest and value, the studies involving the Rorschach are abundant enough that it is beyond the scope of this review to deal with such other measures as Bell et al. have already considered. Lastly, there are several other works that are important to mention, as they have each furthered the area of the assessment of object-relations. In each of these works more attention was given to theoretical issues than is given in the present review. Kwawer, Lerner, Lerner, and Sugarman (1980) focussed specifically on the Borderline diagnosis in Borderline Phenomena and the Rorschach Test. Kissen (1986) dealt with a broader spectrum of the literature in his volume, Assessing Object-Relations Phenomena. Lastly, Lerner and Lerner's (1988) Primitive Mental States and the Rorschach was a revised edition of Kwawer et al.'s earlier work.

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received the bulk of research attention in the area of the assessment of object-relations (Kissen, 1986), and there have been important studies on its use published subsequent to the last review (Stricker & Healey, 1990). Third, and perhaps most important, there are questions about the validity of the Rorschach as an object-relations measure that warrant further investigation.

This issue of the validity of the Rorschach as an object-relations measure is a focus throughout this review. Of particular concern to the present writer is the fact that most of the literature on the assessment of object-relations with the Rorschach rests on a system for the use of the test and an assumption about its nature that have been brought under question by a more extensively researched system--the Comprehensive System (Exner, 1969; 1986a; 1989; Howard, 1989; Leiter, 1989). The literature on the assessment of object-relations with the Rorschach is primarily derived from the system associated with Rapaport (Rapaport, Gill, & Schafer, 1946). The Comprehensive System has not yet been directly associated with object-relations assessment; nevertheless, the empirical strength, findings, and popularity of Exner's system call for its consideration in this review.

The review begins with the identification of fundamental object-relations theoretical constructs and concepts represented in this research. Next, pertinent aspects of Rorschach test history and theory that underlie its use as a tool to investigate those constructs are presented. Subsequently, special scales from the Rorschach that have been developed for the assessment of object-relations constructs and concepts are presented in detail. Following the presentation of the special scales, specific studies on how these Rorschach-based scales have been used to investigate both theoretical

constructs and the area of differential psychiatric diagnosis are addressed and critiqued. The review concludes with an examination of the possibilities of integrating this body of research with the Comprehensive System for the Rorschach.

Key Constructs and Concepts of Object-Relations Theory

Object-relations theory has arisen from the psychoanalytic school of thought (Greenberg & Mitchell, 1983). Greenberg and Mitchell explained that despite the complexity and diversity in the psychoanalytic school's 100-year history, there has been greater consistency and commonality within the school in recent times. They observed that a main point of consistency and commonality is the concern with an individual's interactions with others. The specific theory within the psychoanalytic school that is almost exclusively concerned with an individual's interactions with others is that of object-relations. This section of the review is directed toward providing some key definitions, constructs and concepts of object-relations theory that are represented in the research on the Rorschach and the assessment of object-relations.

Although the pivotal concern of object-relations has developed within the psychoanalytic school, Greenberg and Mitchell (1983) specified that complexity and diversity are still characteristic of both object-relations theory and the psychoanalytic school. These authors observed that there is neither one theorist's work that can be considered the "true" object-relations theory nor is there a consensus among theorists as to how object-relations are defined. In spite of this lack of consensus regarding the definition of object-

relations, for the purpose of this paper a specific definition from Greenberg and Mitchell is accepted: "The term 'object-relations' refers to an individual's interactions with external and internal (real and imagined) other people, and to the relationship between their internal and external object worlds" (p. 13).

The lack within object-relations theory of consistent definition and exposition has made empirical investigation and validation of the theory very difficult. As the above definition from Greenberg and Mitchell (1983) implies, the theory deals with complex interactions between internal, imaginary factors and external, observed factors. Such factors, common in the psychoanalytic school, have not been easily reconciled to traditional scientific methods (Luborsky, 1987). Without such an empirical base, the validity of object-relations theory has not yet been ascertained. There is little doubt, however, from those who have embraced the theory that it is immensely valuable in terms of clinical practice, particularly in the treatment of individuals with more chronic personality disturbances (e.g., Hamilton, 1989; Hedges, 1983; Horner, 1991). Similarly, the present author respects the clinical utility of object-relations theory and recognizes as well, the questionable--but potential--validity of the theory.

Herein lies a very promising aspect of research on the assessment of object-relations, and a beneficial result of doing a review of the area. Many research attempts have been made to measure and to operationalize some of the constructs and concepts of object-relations theory. If these attempts have demonstrated with a degree of empirical soundness that there is some consistency between the theory and experimental results, then this will in turn offer some support for the validity of the theory and its constructs.

Relatedly, another promising aspect of reviewing research in this area is the fact that it deals with the measurement of the clinically central and timely issue of a person's interactions and relationships with others. Following are descriptions of those object-relations constructs and concepts evident in this research.

The Separation-Individuation Process

The separation-individuation process is a concept that has become a cornerstone of object-relations theory (Hamilton, 1988). It refers to a complex developmental course that an infant is involved with for approximately the first three years of life. This developmental course was first observed and delineated by Mahler and her colleagues (Mahler, Pine, & Bergman, 1975a) and later explicated by many other object-relations theorists, including Kernberg (1975, 1976). The process is one in which the infant progressively and optimally develops a separate, constant and differentiated sense of self and likewise a separate, constant and differentiated sense of others. The process occurs primarily within the relationship an infant has with the principal caregiver. It is theorized that the process consists of roughly sequential phases, which essentially involve the development of a strong symbiotic bond between an infant and his or her principal caregiver, followed by the infant's gradual separation and individuation from that symbiotic bond (Horner, 1984; Mahler et al., 1975a). The optimal end result of this process is that the infant attains self and object constancy (Mahler et al., 1975a; Tolpin, 1971), which then continues to develop throughout life (Kaplan, 1978). Object constancy refers to the capacity to tolerate both loving and hostile feelings towards another because the other is experienced as separate

and unique, with both positive and negative characteristics, and because the other is appreciated apart from providing need-satisfying functions (Horner, 1984; Mahler et al., 1975a). Self-constancy is the related concept that refers to the capacity of an individual to recognize positive and negative characteristics of oneself and to function somewhat autonomously because helpful, regulating and soothing functions, performed originally by a caregiver, have now become functions that can be provided by the self (Tolpin, 1971).

Self and Object-Representations

Self and object-representations refer to the basic cognitive patterns or mental schemas (Flavell, 1963) of self and object that evolve during the separation-individuation process. These schemas evolve via the complementary processes of assimilation and accommodation (Piaget, 1954), in which the infant cognitively organizes experiences of the self and experiences of the principal caregiver. These schemas develop as the infant internalizes early relationship experiences (Horner, 1984; Jacobson, 1964), and gradually the schemas become increasingly differentiated, integrated, and complex. As theorized, the schemas include both cognitive-structural and affective-thematic components. Cognitive-structural components refer to how distinct and identifiable the images are. Affective-thematic components refer to the experiential content associated with the images--for example, if they are associated with primarily benevolent or malevolent experiences (Kernberg 1975, 1976). The schemas or representations, then, are very critical in that they constitute the foundation upon which all later relationships are understood and experienced. As Horner (1984) described the process, that

which was earlier internalized later becomes externalized or expressed in interpersonal situations.

Capacity for Autonomous Functioning and Regulation of Affects

Relatively autonomous functioning and the capacity for regulating affect are but two of the functions that result when self and object constancy are attained (Blanck & Blanck, 1979). One theorist has referred to what results for the self as self-cohesion (Kohut, 1971). An individual with a cohesive sense of self has internalized capacities for soothing and regulating self-esteem instead of having to rely on an external caregiver to provide these functions. The individual is then capable of functioning more autonomously, and of modulating affects more effectively (Kohut, 1971, 1977).

Developmentally Based Psychodiagnosis

Object-relations theory is aligned closely with a concept of psychological diagnosis that classifies mental disorders according to the degree of separation and individuation, and to the maturity of self and object-representations that have been attained. It is a method very different from the classification system represented in the DSM-III-R that is used by most mental health service providers (Hamilton, 1989). In contrast to the symptom-based approach of DSM-III-R, the object-relations approach is one that is based on personality structure and developmental issues (e.g., Blanck & Blanck, 1979). The approach derives from the assumption that when developmental arrests or deficits occur during the separation-individuation process, impairments in self and object-representations also occur. The point of arrest and nature of impairments result in various types of overt psychopathology. There are then presumed similarities between certain psychological disorders and

developmental aspects of the separation-individuation process (e.g., Horner, 1984, 1991; Rinsley, 1989). The different types of disorders and related developmental issues that comprise the object-relations diagnostic developmental continuum are summarized below. One implication of this conceptualization of diagnosis is that disorders with different symptomatology may in turn be diagnostically similar in terms of personality structure. Another important implication is etiology. Object-relations theorists concur that both constitutional and environmental factors are involved in arrests that occur during the separation and individuation process, and that lead to later psychopathology. A primary constitutional factor cited is a preponderance of aggression. A primary environmental factor cited is a principal caregiver who does not adequately understand or respond to the emotional needs of the child. Thus, in cases of developmental arrest, the individual often reveals a proclivity to experience self and others in aggressively and negatively tinged ways (e.g., Horner, 1984; Kernberg, 1976; Rinsley, 1989).

Psychoses are thought to result from arrest that has occurred very early in the separation-individuation process. The arrest is presumed to have occurred at pre-symbiotic or symbiotic levels at which time self and object-representations remain undifferentiated. Borderline disorders are considered the result of arrest that has occurred at later phases of the separation-individuation process. Whereas there is some variation among theorists regarding the specific point of arrest, the consensus appears to be that the arrest begins to occur as self and object-representations have achieved some degree of cohesion and as the infant has become more involved in separation

attempts from the primary caregiver. The arrest is then thought to become consolidated at a later point of the separation-individuation process, referred to as the "rapprochement" subphase. Similar to the infant during this subphase, the older individual with borderline personality disorder maintains split and unintegrated self and object images. The narcissistic disorders are generally considered to be the result of arrest that occurs subsequent to the rapprochement subphase but prior to the attainment of self and object-constancy. Thus, in comparison to the borderline disorder, greater cohesion, differentiation, and integration of self and object-representations have developed. In that self and object-constancy have not been attained though, the narcissistic disordered individual still must rely on others for positive supplies necessary to maintain a fragile self-image. In summary, the borderline and narcissistic disorders are assumed to result from arrests that occur at different points during the separation-individuation process and from deficits in the basic structural aspects of the personality--the self and object-representations. In contrast, the neurotic disorders are considered to be the result of conflicts within a "well-developed" personality, meaning one in which there has been successful progress through separation-individuation and attainment of whole self and object-representations. The neurotic disorders are positioned last on the diagnostic, developmental continuum (Hamilton, 1988; Hedges, 1983; Mahler & Kaplan, 1977; Rinsley, 1982).

Due to the scope of this paper these key concepts and constructs of object-relations theory have been presented in a vastly simplified manner. There are numerous works on object-relations theory to which the interested

reader may turn for more complete information and description (e.g., Hamilton, 1988; Horner, 1991; Rinsley, 1989).

Overview of Rorschach Test History and Theory

The Rorschach is an assessment tool that has been extensively utilized and researched during its 70 year history (Exner, 1986a; Lerner & Lerner, 1988; Lubin, Larsen, & Matarazzo, 1984). It has also been, at some points in its history, the target of controversy and criticism (Exner, 1986a; Exner & Martin, 1983; Howard, 1989; Leiter, 1989). In this section, some of the major aspects of Rorschach history and theory are addressed. Discussion of this material should enable the reader to better understand the Rorschach in general and the rationale that underlies its use as an assessment tool for object-relations.

History

The history of the Rorschach has been varied and progressive. It was introduced in 1921 by Hermann Rorschach, a psychiatrist particularly interested in the study of perception. Rorschach died shortly after his initial publication, in which he presented preliminary findings on the use of inkblots, and in which he emphasized an empirical approach to the test and the need for much more research. His untimely death left to his successors the task of studying and disseminating his ideas (Exner 1969, 1986a). Samuel Beck (1937, 1944, 1945) was the first of five successors to contribute to the Rorschach method and its development. Beck's work was empirically oriented, as Rorschach's had been. A second major contributor was Marguerite Hertz (1939) who was committed strongly to both empiricism and clinical intuition in the approach to the Rorschach. Her approach was best

described as interactionist. A third contributor--Bruno Klopfer (1941)--was the first of Rorschach's successors to deviate markedly from his original work. Klopfer's work with the Rorschach, strongly emphasized qualitative and subjective phenomena, as opposed to merely empirical phenomena. Whereas the empirical approach to the test emphasized specific scores and response frequencies, Klopfer's qualitative and subjective approach emphasized studying the verbal content of the response for the possible clinical significance of the content. Zygmunt Piotrowski (1957) followed Klopfer, and his work was characterized as strongly atheoretical and perception-based. David Rapaport (Rapaport, Gill, & Schafer 1946) was a fifth contributor to the Rorschach. His contributions derived from a strong commitment to psychoanalytic theory. Rapaport's work with the Rorschach was similar to Klopfer's in that Rapaport's approach was also qualitative and subjective. Nevertheless, Rapaport's strong commitment to psychoanalytic theory made his work very different from Klopfer's in some ways, as well as from the work of all preceding contributors (Exner, 1969, 1986a; Howard, 1989). Rapaport's work distinctively emphasized such factors as personality dynamics, client history, and client-examiner interaction (Rapaport, Gill, & Schafer, 1946). His work became very popular during the 1950s, a time when psychoanalytic theory was itself very popular (Leiter, 1989).

Beck, Hertz, Klopfer, Piotrowski, and Rapaport each built upon Rorschach's original work in a unique manner. Their contributions were so unique that each one's approach was channeled into a separate system for the Rorschach. Besides having different originators, each system had different principles for administration, scoring, and interpretation. With such

diversity, the psychometric properties of the Rorschach were increasingly attacked in the 1960s and the 1970s (Exner 1986a; Howard, 1989; Leiter, 1989).

In the midst of this period of criticism, John Exner embarked upon an exhaustive, comparative analysis of the five Rorschach systems (Exner, 1969). Exner reported a key result of this analysis to be that there were empirically unsound features in each of the five systems (Exner, 1983, 1986a; Howard, 1990). In light of this and other results, Exner compiled within one system only the empirically sound features of the prior systems. He also included in the system: (a) additional variables supported by new research; (b) a large standardized database of both normal and clinical populations; (c) clearly defined, standardized administration principles; and (d) independence from any one theoretical orientation (Exner, 1978, 1986a, 1990; Exner & Weiner, 1982). The system Exner developed was fittingly named the Comprehensive System.

Exner's research and the Comprehensive System impacted dramatically the use of the Rorschach in the American psychological community. The creation of the Comprehensive System resulted in greatly increased respect for the instrument, and it led to an increase in the Rorschach's popularity (Howard, 1989; Leiter, 1989). Moreover, the trend it started of an operationalized, structural, and quantitative approach to the test is undeniable in that it is now the most consistently taught and used system (Lubin, Larsen, & Matarazzo, 1984; Piotrowski, 1985). Of particular relevance for the present review is that despite the findings and prevalence of the Comprehensive System, the vast majority of research on the use of the Rorschach in the assessment of object-relations is founded on the earlier

system and assumptions of Rapaport. In point of fact, the author's overview of the literature pertaining to the Rorschach and object-relations revealed that Exner's work and contributions were seldom mentioned. The lack of attention to Exner's work would appear problematic for this area of research, as Exner's system is a more popular and a more empirically established system than that of Rapaport.

Theory

Theory regarding the administration, scoring, and interpretation of the Rorschach has changed throughout its history. In terms of the test's theory, significant contrasts between Exner's and Rapaport's approaches are pertinent for the research on the Rorschach and object-relations assessment. A first notable contrast is that Exner's approach is atheoretical, quantitative, and structural, while Rapaport's approach is qualitative, intuitive, and psychoanalytically oriented. A second critical difference between the two regards their assumptions about the nature of the Rorschach, i.e., whether the Rorschach is considered to be predominantly an objective or projective personality measure. Exner concluded from his research that the Rorschach is primarily an objective personality measure, meaning that it is a test which meets basic psychometric properties of standardization, reliability, and validity. Exner concluded as well that the test assesses cognition, perception, and problem-solving, and that it only occasionally elicits projection (Exner, 1986a). Rapaport assumed on the other hand that the Rorschach is fundamentally a projective instrument. He also assumed that as a projective instrument, the test assesses underlying personality dynamics, such as needs and conflicts (Rapaport et al., 1946).

In more recent years, Rapaport's adherents have applied this assumption directly to Rorschach test theory and the assessment of object-relations (Kissen, 1986; Kwawer et al., 1980; Lerner & Lerner, 1988). Mayman (1967) first explicated the projective assumption regarding the Rorschach and object-relations assessment. In his classic statement he wrote:

> When a person is asked to spend an hour immersing himself in a field of impressions where amorphousness prevails and where strange or even alien forms may appear, he will set in motion a reparative process the aim of which is to replace formlessness with reminders of the palpably real world. He primes himself to recall, recapture, reconstitute his world as he knows it, with people, animals and things which fit most naturally into the ingrained expectancies around which he has learned to structure his phenomenal world. A person's most readily accessible object-representations called up under such unstructured conditions tell much about his inner world of objects and about the quality of relationships with these inner objects toward which he is predisposed. (p. 17)

This projective assumption underlies the research on the assessment of object-relations with the Rorschach. However, a central concern and question of this review is the validity of this projective assumption and the Rorschach as an object-relations measure. This concern is underscored by the fact that, based on his extensive research, Exner has maintained that the Rorschach is fundamentally an objective measure, with only some projective features (Exner, 1983, 1986a, 1986b, 1989).

In conjunction with theory about projection, another aspect of the Rorschach test theory that is foundational to object-relations research involves the features of a Rorschach response. The various features of a Rorschach respoonse that have been utilized in the assessment of object-relations are now identified.

Beginning with Hermann Rorschach's original work and continuing throughout the other systems, five categories of the Rorschach response were considered important and scorable. These five categories included: (a) location, meaning the part of the blot to which the subject responded; (b) determinants, meaning those blot characteristics which were instrumental in the development of the response; (c) form quality, meaning how well the response fit the actual blot contours; (d) content, meaning the type(s) of object(s) mentioned in the response; and (e) popular, meaning whether or not the response occurred with some frequency in the general population. From the research, Exner included in the Comprehensive System three other response categories. Accordingly, one of the hallmarks of the Comprehensive System is that empirically sound interpretation of the Rorschach requires the inclusion of data from all response features or categories (Exner, 1986a).

Contrasted with this principle of the utilization of all response features, in the work that has been done work with the Rorschach on the assessment of object-relations, only a few Rorschach-response features have been utilized. Of those few response features, the one used predominantly is that of content. As is described more fully in the following section, each special scale for the assessment of object-relations developed from the Rorschach is based on an analysis of content.

Whereas content analysis is similar for the various scales, the scales differ as to the type of content deemed scorable. For example, for one scale only content involving a human percept (coded H) is scored. For another scale, only content involving some type of relationship between objects is scored. For a third scale, the content of any response is scored.

Besides the content feature, two other response features that have been involved to a lesser degree in the research on the assessment of object-relations are form quality and the determinant of human movement (coded M). Those who have investigated object-relations phenomena in relation to the Rorschach have assumed that these response features, and primarily the feature of human content, were particularly powerful in eliciting and manifesting the projection of object-relations material (e.g., Blatt, Brenneis, Schimek, & Glick, 1976; Kissen, 1986; Mayman, 1967; Urist, 1977).

One final characteristic of Rorschach theory pertinent to this area of research is the distinction made between thematic and structural approaches. As indicated earlier in the present review, there are presumed thematic and structural aspects of self and object representations. It becomes more evident in the following section that some Rorschach, object-relations research has investigated more of the thematic aspects of object-relations, while other research has investigated more of its structural aspects. As with the theoretical construct, Rorschach, object-relations assessment has been thematic or structural. The thematic approach focuses on an analysis of the whole essence of what is said in a response. The structural approach, on the other hand, focuses on an analysis of the details and characteristics of what is described in a response.

Measures from the Rorschach for the Assessment of Object-Relations

This section of the review is devoted to identifying and describing various special scales that have been developed from the Rorschach for the assessment of object-relations. First, work that was a precursor of later

research is presented. Then three Rorschach-based scales developed to measure specific object-relations constructs and concepts are presented.

Pioneering Work

Following from his projective assumption quoted above, Mayman (1967) conducted an important pioneering study on the assessment of object-relations with the Rorschach. The results of earlier studies investigating H (e.g., Hertzman & Pearce, 1947) and M (e.g., Kelly & Fiske, 1951) responses suggested that Rorschach data has potential for assessing aspects of interpersonal functioning. However, Mayman's study was pioneering in that it was the first study of a specific object-relations construct. The construct he studied was that of self- and object-representations. He hypothesized that the content of H and M responses would provide a measure of such representations. According to object-relations theory, he in turn hypothesized that H and M reponses, as possible measures of self- and object-representations, would in turn correspond with measures of overt psychopathology.

In his study, Mayman (1967) did not develop a systematic or well-defined scoring procedure for Rorschach responses as is characteristic of the later developed Rorschach-based scales. Nevertheless, he was able to train a group of raters to reliably analyze (median inter-rater reliability of .78) the contents of H and M responses. The contents that were analyzed were from responses that Mayman himself had excerpted from the Rorschach protocols of 23 patients, about whom little information was given. His excerpting criteria were that "self and object representations could conceivably be inferred" (p.22) from the content of a response. From thematic analysis of the

excerpted responses, the raters derived a degree of psychopathology score according to a measure called the Luborsky-Health-Sickness Rating Scale. The raters' scores were then correlated with Luborsky-Health-Sickness ratings that were obtained from intensive psychiatric evaluations of the patients. A highly significant correlation of .81 ($p < .001$) was obtained between Rorschach data and psychiatric data.

Lack of methodological sophistication is evident in this first study of the Rorschach and object-relations in several ways. Excerpting criteria were not clearly defined and little information was given about both the Luborsky-Health-Sickness rating scale and the patients. These deficiencies would impede greatly replication of the study. It is also not specified whether the Rorschach raters were "blind;" if they were not, their familiarity with the patients could account for the significant correlations found. If the raters were "blind" however, then it is notable that such a positive correlation was found between independent ratings of the Rorschach responses and the psychiatric evaluations. Such results would suggest the presence of some validity for the self- and object-representations' construct and for Rorschach H and M responses as a measure for the construct. This study did have limitations and it was not replicated in later research; nevertheless, it did inspire the development of more systematic measures.

Rorschach-Based Scales

In this section of the review three Rorschach based scales developed for the assessment of object-relations are presented. The scales are those that have received the most attention empirically. For the sake of clarity, studies in which these scales were used are critiqued in subsequent sections of the

present review. In this immediate section, only identifying characteristics of the scales are discussed. In addition to identifying characteristics, the manner in which the scales are employed is discussed briefly. To reiterate, these scales do not involve the use of an entire Rorschach protocol, but only the content of certain responses.

Mutuality of Autonomy Scale (MOAS). One aspect of Mayman's approach was that it involved the use of themes in the contents of Rorschach responses. Thus, his work has been classified as one example of a thematic approach to the assessment of object-relations (Frieswyk & Colson, 1980). One of Mayman's student's, Urist further developed and made more systematic the thematic approach. Urist developed what has become an increasingly used and researched instrument called "The Mutuality of Autonomy Scale" (MOAS). He introduced this scale in 1977, describing it as being based on the theoretical works of Kohut, Mahler, and Kernberg. Urist claimed that he was particularly interested in assessing the construct of "Mutuality of Autonomy," which he defined as the tendency of "individuals to experience self-other relationships in enduring, characteristic ways that can be defined for each individual along a developmental continuum" (Urist, 1977, p. 3). This construct is not one that derives from the general body of object-relations literature. However, as indicated by Urist's definition, the mutuality of autonomy construct is closely associated with the constructs of the separation-individuation process and self- and object-representations.

In most of the studies that are critiqued subsequently, the MOAS is used with a Rorschach that has been administered and scored according to Klopfer's system. Any Rorschach response is scorable in which the content

includes a specified or implied relationship among humans, animals, and/or inanimate objects (Urist, 1977; Urist & Shill, 1982). The scale consists of seven points, which are summarized below:

1. Reciprocity/Mutuality--a response in which figures are depicted in separate, autonomous, and mutual interaction.

2. Collaboration/Cooperation--a response in which figures are engaged in parallel activity.

3. Simple interaction--a response in which a figure(s) is/are described as leaning upon or being supported by another.

4. Anaclitic/Dependent--a response in which a figure(s) is/are merely an extension of another.

5. Reflection/Mirroring--a response in which there is evidence of malevolent control of one object by another.

6. Magical control/Coercion--a response in which there is not only a severe imbalance of mutuality but also a destructive, assaultive quality between the figures.

7. Envelopment/Incorporation--a response in which one figure is completely out of control and overpowered by another figure.

These then are the MOAS points by which certain Rorschach responses are scored. The most commonly used and reported scores include (a) the mean object-relations score (MOR), (b) the highest object-relations score (HOR), and (c) the lowest object-relations score (LOR). Studies utilizing the MOAS are critiqued at a later point in the review.

Developmental Analysis of the Concept of the Object Scale (DACOS). Blatt and his colleagues (Blatt et al., 1976) developed another Rorschach-based

scale for the assessment of object-relations. Like Urist's work, the scale involves the analysis of the content of certain Rorschach responses. Unlike Urist's work however, only responses involving some form of human content are scored, and the scoring criteria are much more structural than thematic. The scoring procedure of Blatt's scale also appears to be much more involved and complex than that of the MOAS. Blatt's scale, the "Developmental Analysis of the Concept of the Object Scale" (DACOS), has theoretical underpinnings deriving from the works of Mahler and cognitive-developmental theorists, such as Piaget. Regarding administration and scoring, the DACOS proceeds from Rorschachs that are administered according to Rapaport's system. As mentioned above, scorable responses are ones that include some form of human content: (a) a whole human response, coded H; (b) a quasi (i.e., fictional or mythological) human response, coded (H); (c) a detail (part) of a human response, coded Hd; or (d) a detail of a quasi-human response, coded (Hd). Blatt et al. stated in their 1976 study that the scale consists of the following four dimensions:

1. Accuracy--the dimension addressing how well the response conforms to the contours of the blot; whether it is of good form quality (FQX+) or poor form quality (FQX-).

2. Differentiation--the dimension addressing how the response is classified; that is, whether it is an H, (H), Hd, or (Hd).

3. Articulation--the dimension addressing the type and degree of attributes (e.g., size, clothing, sex, age, role, specific identity) that are described for the figure.

4. Integration--the dimension addressing how an object fits into the "context of action and interaction with other objects" (Blatt et al., p. 363). Within this dimension, four sub-dimensions are also scored: (a) motivation of the action, (b) integration of the object and action, (c) nature of the action, and (d) content of interaction.

The above four dimensions comprise the structural, scoring criteria of the DACOS. Each human response is put into a category of poor form or good form, with the response then scored along a continuum within each of the other dimensions and subdimensions. The DACOS has been used in studies of the object-relations construct of object-representations and the concept of developmentally diagnosed psychopathology. Studies utilizing the DACOS are critiqued at a later point in the present review.

Separation and Individuation Theme Scale (SITS). One other Rorschach-based scale is the "Separation-Individuation Theme Scale" (SITS). The scale was developed by Coonerty (1986) and is based on Mahler's theory (1975b, 1977) regarding the development of the borderline personality. Unlike the MOAS and the DACOS that analyze only certain Rorschach responses, the SITS analyzes the content of every response. It analyzes content according to whether it reveals a "pre-separation-individuation theme," e.g., a response in which there is no indication of boundaries between objects depicted; or whether it reveals a "separation-individuation theme," e.g., a response in which objects are described as intact, but engaged in an indecisive, "push-pull struggle" (p. 511). The SITS has evidently not attracted as much research interest as have the MOAS and the DACOS, since it has only been used in one study. However, it is mentioned in this review because it is an example of a

measure of the key object-relations construct of separation-individuation, and of the key concept of developmentally based psychodiagnosis. The SITS study is described and critiqued subsequently in the present review.

In conclusion, the scales mentioned above share some basic similarities, but there are also some variations that present significant challenges in the analysis of this body of research. First, each of these three scales is based on differing object-relations theoretical underpinnings. In addition, the scales also vary in regard to which object-relations construct is being measured. Finally, another area of variance between these measures that makes comparison difficult is that the scales proceed from different Rorschach administration and scoring systems.

Validity Studies of Rorschach-based Measures

Measures developed from the Rorschach test for the assessment of object-relations were presented in the preceding section. Construct, criterion-related, convergent, and discriminant validity studies, employing these Rorschach-based measures are now reviewed and critiqued. In the development of any new measure for a construct, Campbell and Fiske (1959) specified that the measure must demonstrate that (a) it correlates highly with other measures of the same construct, and that (b) it does not correlate with measures of supposedly different constructs. In this section are presented studies that have provided information about these validity issues as well as crucial reliability issues.

Mutuality of Autonomy Scale (MOAS) Studies

When Urist introduced the MOAS in a 1977 study, he stated that the purpose of the study was "one of construct validation" (p. 3). He was particularly interested in the construct of "mutuality of autonomy" (MOA). By defining the MOA construct and by developing the MOAS scale, Urist attempted to operationalize experiential aspects of the separation-individuation process. According to the construct of separation-individuation, self and others are experienced in gradually different ways as the individual moves from symbiosis to object constancy. At earlier phases of the process, it is theorized that autonomy of self is not experienced and that others are experienced as more powerful and controlling. As object constancy is approached, self and objects are experienced more as mutually autonomous. This experiential content is depicted in the MOAS scoring continuum, with lower scores of 1 and 2 associated with successful progress through separation-individuation and healthier object-relations. The highest points on the scale are associated with impeded progress through separation-individuation and the experience of malevolent control and destructiveness. The theme of the highest scale points involving malevolent control and destructiveness follows from what is theorized about the etiology of object-relations and developmental psychopathology, that is, inherent aggression and primary caregivers who are not adequately empathic or responsive (e.g., Horner, 1984; Kernberg, 1975; Masterson, 1976; Rinsley, 1982).

In Urist's initial study (1977), the MOAS was applied to the Rorschach data of 40 inpatients, who had varying diagnoses. Urist also developed what he conceptualized as two other independent measures of the mutuality of

autonomy dimension for this study. These two measures consisted of a staff rating scale and an autobiographical scale. Both of these scales were then scored according to the same seven points that comprise the MOAS. MOAS scores from Rorschach data and from autobiography and staff rating scale data were then compared. Inter-rater reliabilities were determined for all three measures by percent agreement, resulting in very similar reliabilities. For the Rorschach scores, agreement between raters for exact scoring agreement was .52, and the percentage of agreement for scoring differences of only one scale point was .86. Urist reported that all intertest correlations (mean MOAS score and autobiography rating: $\underline{r}$ = .67; mean MOAS score and staff rating: $\underline{r}$ = .53) were significant beyond the .001 level. Urist concluded that these results offered support for the validity of the MOA construct and for the capacity of the MOAS to assess this construct.

Urist clarified in this study that he was not concerned with the Rorschach as a predictor of behavior, but rather that he was concerned with the validity of a construct and with the Rorschach as a measure of that construct. Campbell and Fiske (1959) explained that validity is demonstrated when the same construct is measured by "maximally different" methods (p. 83). Whereas the same seven-point criteria were employed for all the measures in Urist's study, the criteria of staff rating, autobiography, and Rorschach data were all very different. Thus, these differing criteria are in keeping with Campbell and Fiske's recommendations. In conjunction with the fact that raters for all three data sources were "blind" to the study's purpose and to subject information, the highly significant correlations

obtained appear to provide substantial support for the construct of MOA and for the MOAS.

In a replication study (Urist & Shill, 1982), a methodological question raised in the initial study was investigated. This question was whether the MOAS was assessing the MOA construct or whether it was tapping into a broader health-sickness factor. Urist was concerned about this possibility due to the fact that in the first study MOAS raters had access to the whole Rorschach protocol. Thus raters could have been influenced by other Rorschach features beside content involving relationship in determining their ratings. In the methodology employed in Urist and Shill's study, then, a Rorschach response was excerpted from the entire protocol if the content depicted an explicit or an implied relationship. The excerpting was accomplished independently by a pair of raters, who achieved an agreement rate of 94%. Excerpted responses were then scored by raters.

The subjects for this study were adolescent patients ($N = 60$), half ($n = 30$) classified as inpatients and half ($n = 30$) classified as outpatients. The MOAS was applied by two independent raters to excerpted responses from subjects' Rorschachs, and the inter-rater reliabilities obtained were similar to those of the first study, with "exact hits" at 58% and those within one scale point at 72%. As in the first study, Urist and Shill (1982) derived an independent measure of object-relations, which they identified as a "clinical version of the MOAS" (p. 452). This measure involved a pair of experienced clinicians rating the case histories and records of subjects according to the same seven-point criteria of the MOAS. The clinical measure was then compared with the Rorschach MOAS scores, and the intercorrelation of the

mean MOAS score with the clinical measure was $r = .53$, which was highly significant ($p < .001$). Urist and Shill interpreted these results to indicate that an extraneous Rorschach factor was not being assessed by the MOAS.

In this replicated study, Urist and Shill again were primarily interested in the validity of the MOA construct and the MOAS as a measure of the construct. This study was not an exact replication of the first (Urist, 1977) because of the excerpted Rorschach responses and the different criterion of clinical ratings of material contained in case histories and records. As in the first study, the same seven-point criteria were again used for Rorschach responses and for the case material. With these very different data sources, a highly significant correlation was obtained again, thereby strengthening evidence for the validity of the MOA construct and the MOAS. The investigators recognized that, in keeping with Campbell and Fiske's (1959) recommendation of using maximally different methods for studies of construct validity, a particularly worthwhile avenue for future research would be to compare the Rorschach scale with different approaches for assessing object-relations.

The next study with the MOAS was an investigation of the measure's predictive validity (Tuber, 1983). The study followed from an assumption of object-relations theory that healthy self- and object-representations enable an individual to function more adaptively. Consistent with this assumption, Tuber's hypothesis was that the MOAS could help predict later levels of psychological adjustment. The criterion of later adjustment was operationalized as later psychiatric hospitalization or its avoidance. More specifically, it was hypothesized that high object-relations scores (HOR) from

the MOAS (indicated by scale points 1 or 2) are associated with the avoidance of later hospitalization, and that low object-relations scores (LOR, indicated by scale points 5, 6, and 7) are associated with the occurrence of later hospitalization. Scale inter-rater reliabilities revealed higher percentages (73% for exact matches, and 90% for matches within one scale point) than those obtained in the two prior studies with the MOAS (Urist, 1977; Urist & Shill, 1982).

The author described the study as involving the use of both an "experimental" and a "control" group. The "experimental" group was identified as comprising 35 individuals who met the following criteria: (a) when between the ages of 6 and 11, they had spent a period of a least six months in a residential treatment facility, and (b) when between the ages of 17 and 30, they had spent another period of a least six months in some type of psychiatric facility. The "control group" was identified as comprising individuals who had also been patients for at least six months in the residential treatment facility, but who had no later occurrence of psychiatric hospitalization. The MOAS was then applied to these subjects' admission Rorschach protocols, and resulting MOAS scores were then compared with the outcome criterion of later hospitalization or its avoidance. Employing the Mann-Whitney test, statistically significant correlations were found, as predicted, between the highest-object-relations scores (HOR) and the avoidance of later rehospitalization ($z = -2.20$; $p = .0139$), and the lowest-object-relation scores (LOR) and the incidence of later rehospitalization ($z = -2.48$; $p = .0066$). The authors concluded that some support for the predictive validity of the MOAS was demonstrated.

In regard to methodology, Tuber's (1983) study demonstrated a methodological improvement upon a simple correlational design. Improvement in the study was the matching of the groups, which made the design technically an "ex-post-facto" design (Kazdin, 1980, p. 64). Tuber matched the subject groups on racial and sex characteristics to help rule out these variables as ones that could have influenced the results. With this positive methodological feature, Tuber's study demonstrated support for the validity of the MOAS, as the two previous studies (Urist, 1977; Urist & Shill, 1982) had. Whereas the two previous studies focused on construct validity, Tuber's study was exclusively one of predictive or criterion-related validity, in which the criterion was later adjustment, operationalized as the occurrence or avoidance of psychiatric hospitalization. The significant correlations obtained strengthened the case for the validity of the MOAS as an object-relations measure. Another positive result of the study was a demonstration of the MOAS' clinical utility with a child population.

In regard to some limitations of Tuber's (1983) study, due to the nature of the research topic, the subjects were not able to be randomly assigned. Thus, the groups technically did not represent "control" and "experimental" groups. In addition, some might argue that because it can be the result of a multitude of factors, hospitalization is not a valid measure of later adjustment or a valid object-relations criterion. Following from this, the results would be limited to suggesting support for predictive validity of the MOAS with the criterion of later hospitalization, and would not necessarily be generalizable to later adjustment.

Following the Tuber (1983) study, most subsequent studies involving the MOAS have been with child populations. Two of those studies investigated validity issues by extending the use of the MOAS to non-clinical child populations. In one of the studies convergent and discriminant validity was demonstrated in a study of 60 4th to 6th grade children randomly selected from a pool of 127 (Ryan, Avery, & Grolnick 1985). As the investigators predicted regarding discriminant validity, MOAS measures were not significantly correlated with standard achievement or intelligence scores. However, in this prediction of convergent validity, MOAS measures were significantly correlated ($p < .05$) with three aspects of social functioning that were measured by a teacher rating form. The three positive intercorrelations were with (a) self-esteem ($r = .26$); (b) works well with others ($r = .33$); and (c) attention ($r = .30$). Ryan et al. (1985) concluded that support was demonstrated for the validity of the MOAS as a measure that addresses relational and social functioning. They also concluded that the results demonstrated support for the construct of self- and object-representations as related to enduring patterns of interpersonal behavior.

The studies of Urist (1977), Urist and Shill (1982), and Tuber (1983) critiqued above each contributed initial support for the validity of the MOAS. With this support established, Ryan et al. (1985) had a base for investigating other important validity aspects of the MOAS, such as discriminant and convergent validity. It is recalled that the first two MOAS studies (Urist, 1977; Urist & Shill, 1982) implemented essentially the same scoring procedures with the different measures or data used in the studies. In the Ryan et al. study, this was not the case. Scoring procedures, as well as measures, were

different. These different procedures appear to have contributed to the smaller size of the correlations obtained; nevertheless, the size of the correlations in the Ryan et al. study remained significant. These results added important validity information on the MOAS, namely, that the MOAS construct, as expected, was positively related to measures of social and interpersonal functioning, but that it was unrelated to measures of intellectual functioning and academic achievement. One last comparative note with regard to earlier studies is that the MOAS inter-rater reliabilities obtained in the Ryan et al. (1985) study were greater. In this study exact agreement between raters reached 90%, and agreement within one point reached 98%.

In one final validity study of the MOAS, Tuber (1989b) studied the MOAS in a non-clinical sample of children as Ryan and associates had done. The purpose of the study was twofold: (a) to establish further the discriminant validity of the MOAS by comparing it with IQ, age and gender variables, and (b) to present correlational data descriptive of MOAS-score-patterning in a sample of non-clinical children. Forty public school children (21 females and 19 males), ages 6 to 13, comprised the subject pool. Their public school records were reviewed and their teachers interviewed to rule out the presence of psycholological disturbance. Subjects were administered the Rorschach and the Wechsler Intelligence Scale for Children-Revised (WISC-R). The MOAS was applied to Rorschach data, and the mean (MOR), highest (HOR), and lowest (LOR) object-relations scores were calculated for each child. Raters were blind to subject information and to the purpose of the study. The inter-rater agreement for exact matches was 93%.

As would be expected for non-clinical subjects who would theoretically have healthy object-relations, results revealed a predominance of lower MOAS scores. Specifically, over 50% of all subjects' responses received one of the two lowest MOAS scores of 1 or 2, which are suggestive of benevolent and adaptive object-relations. Results also revealed that the highest MOAS scores of 5, 6, and 7, which are suggestive of malevolent and maladaptive object-relations, occurred in only 30% of subjects' responses. Moreover, of that 30%, a vast majority (77%) of these responses received a score of 5, the least maladaptive score of the three. No subject gave the most maladaptive response of 7. Tuber (1989b) interpreted these results to suggest that non-clinical subjects could (a) counterbalance malevolent scores with more benign responses, and (b) "avoid truly toxic" responses (p. 148).

In regard to results about discriminant validity and providing support for discriminant validity, no significant correlations between MOAS scores and WISC-R scores or age were found. However, gender differences were found. Using the Mann-Whitney test, a statistically significant difference was found between the average number of benevolent responses from boys and girls ($z = 2.41$; $p = .0161$), with girls offering the greater number. A statistically significant difference was also found between the average number of malevolent responses from boys and girls ($z = 1.97$; $p = .0484$), with boys offering the greater number. Tuber (1989b) surmised that these unexpected findings could be attributable to findings from developmental research suggesting differences between male and female infants in the ability to be calmed and sex differences in level of aggressive behavior. He also concluded that more research on gender differences and object-relations is warranted.

Whereas this study's results do offer further information on the validity of the MOAS, the lack of a matched clinical comparison group is problematic and necessitates tentativeness when interpreting and generalizing from its results. The finding with regard to gender differences is intriguing, and as Tuber (1989b) suggests, further research regarding this finding is needed.

Concluding comments. The studies described above have particularly addressed validity issues of the MOAS. Construct, criterion, convergent, and discriminant validity have all been investigated and demonstrated with varying degrees of strength. In Stricker & Healey's (1990) analysis, the MOAS is a "more global and simplistic" measure compared to the DACOS. However, a particular strength of the MOAS is that it attempts to assess such a fundamental aspect of object-relations theory, that is, the aspect of how the self is experienced in relation to others. Furthermore, the support for validity of the MOAS as demonstrated by the studies described above is respectable; and, regarding the reliability of the MOAS, increasingly strong inter-rater reliabilities were demonstrated from the earlier to the later studies. Finally, the relative simplicity of the MOAS may make it more amenable for use by a greater number of clinicians.

One salient limitation of the MOAS is that there is no mention in the studies of the availability of a scoring manual, a lack which interferes with the possibility of its standardized use by a wider number of clinicians. One important future endeavor regarding the MOAS would be the development of such a manual. In addition, several of the previously mentioned studies involved the use of the MOAS with child populations. Another important

future direction for research with this scale is to establish it on firmer, empirical ground in its utilization with adults.

Developmental Analysis of the Concept of the Object Scale (DACOS) Studies

The DACOS was introduced in 1976 (Blatt et al., 1976). The initial study was a validity study of the construct of object-representations and of the DACOS as a measure of the construct. According to the authors, the initial study was specifically of "normal development and psychopathological impairment" (p. 364) of object-representations, as manifested in human responses on the Rorschach.

The initial study with the DACOS actually involved reporting the findings of three inter-related studies (Blatt et al., 1976). The first was a longitudinal study of normal development, in which the Rorschach and the DACOS were administered to 37 normal subjects at ages 11-12, 13-14, 17-18, and 30. The four scoring dimensions of the DACOS were briefly described in the study, but the implementation and scoring procedures were not specified. Estimates of inter-rater reliability were obtained by percent of scoring agreement between two judges after scoring the age 17-18 administration. The percentages obtained for the different categories of the DACOS ranged from 82% to 90%. A linear trend ANCOVA for a repeated measures design, with response productivity as the covariate, revealed statistically significant changes in DACOS scores over time that were evidenced by (a) an increase in the number of full H responses ($p < .001$); (b) an increase in the specification of perceptual and functional characteristics of figures in H responses ($p < .001$); (c) a decrease of H responses that did not involve action ($p < .05$) and an increase of H responses that did involve full, congruent interaction with a specific

figure ($p < .001$); and (d) an increase of H responses involving benevolent interactions ($p < .05$). These results for the DACOS are consistent with developmental aspects of object-relations theory.

The second study described in the publication (Blatt et al., 1976) was a comparison study of five groups of 38 hospitalized patients whose Rorschach protocols had revealed varying degrees of thought disturbance, as assessed by the Rorschach Boundary Disturbance Scale (Blatt & Ritzler, 1974). According to the Boundary Disturbance Scale, subjects were placed in the same group if they manifested similar degrees of thought and boundary disturbance. Degrees of thought and boundary disturbance were determined by types of special scores given to responses; for example, "contamination" (CONTAM) and "confabulation" (CONFAB) responses were indicative of severe boundary disturbance, "fabulized combination" (FABCOM) responses were indicative of less severe disturbance, and " incongruous combination" (INCOM) responses were indicative of minimal boundary disturbance (Exner, 1986a; Rapaport, 1946). The DACOS was then applied to subjects' Rorschach protocols, and intergroup comparisons were made. A linear trend ANCOVA, with response productivity as the covariate, revealed statistically significant differences between the groups only on inaccurately perceived responses (no differences on accurately perceived responses), which was a finding not anticipated by the investigators. With inaccurately perceived responses, analyses revealed unexpectedly that more serious thought-disturbed groups had greater ($p < .05$) degrees of articulation than did less disturbed groups. As expected, however, the more serious thought disturbed groups also had greater instances of unmotivated, non-specific action ($p < .05$) and greater instances of

malevolent-content interaction ($p < .01$). The investigators concluded that there was differential impairment in object-representations according to varying degrees of psychopathology.

The third study was a comparison of the DACOS results from the normal subjects of the first study (at ages 17-18) and the patients involved in the second study (Blatt et al., 1976). Separate one-way ANCOVAs for normality-pathology, within accurately and inaccurately perceived responses indicated no differences in the number of accurately perceived, full human figures between the two groups. Differences between the groups were revealed however, with regard to the characteristics of accurately perceived responses, and with regard to both the number and the characteristics of inaccurately perceived responses. More specifically, statistically significant interactions were obtained on the scoring dimensions of (a) the integration of object and action ($p < .01$); (b) the nature of the interaction ($p < .05$); and (c) the content of the interaction ($p < .001$). The investigators stated that the nature of these interactions indicated that normals responded at developmentally more advanced levels than did patients on accurately perceived responses. The investigators also stated that the interactions indicated the surprising and unexpected finding that patients responded at developmentally more advanced levels than normals on inaccurately perceived responses. In light of these results, the authors offered complex interpretations regarding the functioning and reality testing of more seriously disturbed patients. They concluded that the results of the three studies offered strong support for the validity of the DACOS as a measure of object-representations and for the

validity of the object-representation construct and its influence upon psychopathology.

In the present writer's opinion, there are aspects of these studies on the DACOS that call for a more moderate conclusion regarding the validity of the scale than the conclusion offered by Blatt et al. (1976). One observation is that these DACOS studies were highly complex in their methodology and obscure in their descriptions of general procedures, and more importantly, of the DACOS itself. A second observation is that, as indicated above, Blatt et al. (1976) appeared to make strong, definitive conclusions implying causality, between object-relations and psychopathology without acknowledgment of the correlational nature of the research or its methodological limitations. As an example, in the first study the investigators concluded that the DACOS is indeed developmentally based. They also concluded that positive changes definitely occur in the perceptions of human figures, as assessed by the Rorschach, as age increases. It seems possible, however, due to the uniqueness of the Rorschach test and to the frequency with which it was administered in the first five years of the study, that a testing or practice effect could have accounted for some of the changes in the nature and characteristics of responses. An improvement in this design, to have possibly ruled out such a variable, would have been to include a normal comparison group administered the Rorschach only at ages 11-12 and then again at age 30. Another limitation is evident in the second study. This limitation was that the same Rorschach protocols were used for the thought disorder measure, the Rorschach Boundary Disturbance Scale (Blatt & Ritzler, 1974), and for the DACOS. Thus, there is the possible contamination of the findings due to the

lack of distinction between the measures. One last aspect of these studies that seems to call for more moderate conclusions is the fact that these studies represented the first published work on the DACOS. Thus, definitive statements about the DACOS and the constructs being assessed would appear premature as more research would be needed. Nevertheless, it can be said that the results of the study do offer initial support for the validity of the DACOS as a measure related to the construct of object representation and to the concept of developmental psychopathology.

There was one other study conducted regarding the validity of the DACOS, and it involved a proposed modification of the measure (Fritsch & Holmstrom, 1990). The proposal was to alter the DACOS so that it would resemble the MOAS as a continuous variable scale. The authors suggested that such a modification would be more conceptually consistent with object-relations theory and its construct of the separation-individuation process as a developmental continuum. When examining the Rorschach protocols of 84 in-patient adolescents who were the subjects in this study, the scoring of the DACOS was modified so that inaccurately and accurately perceived responses were differentially weighted ($\underline{+1}$ for accurately perceived and $\underline{-1}$ for inaccurately perceived) and then summed for one overall object-relations score. The authors reported that the results of univariate correlation and multiple regression analyses supported both convergent and discriminant validity of this modification. However, contrary to one of their hypotheses, they also reported that the modified DACOS score correlated so highly with original DACOS scores that it did not reveal greater explanatory power than the original DACOS scores.

Concluding comments. The development of the DACOS proceeded from the assumption that the "representation of human form on the Rorschach is an ideal base for assessing an individual's representational world" (Blatt & Lerner, 1983, p. 8). Regarding some relative strengths of the DACOS in comparison with the MOAS, the initial inter-rater reliabilities of the DACOS were slightly higher (80% to 90%) than those initially obtained for the MOAS. In addition, a detailed scoring manual is available for the DACOS, whereas one is apparently not available for the MOAS. In regard to relative weaknesses, the DACOS appears to have a weaker base for its validity, in terms of the number and the diversity of studies conducted, than does the MOAS. Most of the literature on the DACOS has focused on diagnostic and treatment issues. What appears most problematic in respect to the DACOS is its complexity and cumbersomeness, which would likely deter from its use by more general clinicians interested in possible ways to assess object-relations. Whereas Fritsch & Holmstrom's (1990) proposed modification may simplify the DACOS slightly, further research is necessary to justify its supplanting of the original form.

The Separation-Individuation Theme Scale (SITS)

Whereas the DACOS and the MOAS both, to a large extent, deal with the construct of self- and object-representations, the SITS deals primarily with the concept of the separation-individuation process and its theorized experiential content. Coonerty (1986), in developing the SITS, sought to study the separation-individuation process, and the early disturbance of this process that Mahler and her colleagues saw as leading to later borderline psychopathology (Mahler, 1975a, 1975b; Mahler & Kaplan, 1977). Coonerty's

study included two experimental groups, one for adult subjects diagnosed with Borderline Personality Disorder (n = 50) and the other for adult subjects diagnosed with schizophrenia (n = 50). The diagnostic criteria for placement in these groups was clearly specified, and two independent clinicians made the diagnostic decisions with an 88% rate of agreement. In keeping with the concept of separation-individuation, Coonerty framed her hypotheses so that Borderline subjects would reveal a greater number of separation-individuation themes in the contents of their Rorschach responses than would schizophrenic subjects; and that schizophrenic subjects would reveal more pre-separation-individuation themes than Borderline subjects. These hypotheses were supported by statistical significance in both groups: (a) the borderline group revealed a significantly greater number of separation-individuation themes ($p < .05$), and (b) the schizophrenic group attained a significantly greater number of pre-separation individuation themes ($p < .01$). In addition to confirmation of both hypotheses, the SITS achieved a remarkable inter-rater reliability (96%). Coonerty concluded that the theoretical concepts of the separation-individuation process and developmental psychopathology were supported by the results.

As described above, the MOAS and the DACOS studies have been predominantly directed to the construct of self- and object-representations. The SITS study has instead been directed to the central, and perhaps more fundamental, concept of the separation-individuation process. The results in respect to inter-rater reliability and confirmation of both hypotheses are impressive. In addition, the results are consistent with the object-relations concept that developmental issues play a significant role in psychopathology.

A positive methodological feature of this study is that the groups were matched according to diagnosis, sex, age, and type of treatment (in or outpatient). This diminished the variability between the two groups; although, the possibility did remain that other group differences, such as additional Axis-I diagnosis, could have accounted for the results. In light of these results, further research with the SITS seems warranted.

Summary of Validity Studies of Rorschach-based Measures

Central object-relations constructs and concepts have been represented and investigated in varying ways by the studies that have been critiqued in this section. The results of these studies have demonstrated some consistent relationships between the Rorschach-based scales and differing criteria that are presumably associated with object-relations theory. Some methodological limitations and weaknesses of these studies were described. These limitations as well as the relative newness of this research require a cautious approach when applying these scales as well as further research. Nevertheless, the studies collectively do provide some evidence that the Rorschach has potential in the assessment of object-relations.

Diagnostic Studies with Rorschach-based Measures

Studies pertaining to validity issues of the DACOS, MOAS, and the SITS were considered in the preceding section. Attention is now turned to how these Rorschach-based measures have been implemented in studies of differential diagnosis. Validity studies and diagnostic studies are not entirely different, however. There is similarity between the two in that diagnostic studies relate to validity issues as well. More specifically, these diagnostic

studies may be considered criterion-related validity studies, with psychodiagnosis as the criterion. In considering the studies presented here, attention is drawn to the object-relations concept of diagnosis presented earlier. As in the preceding section, studies involving the different Rorschach-based measures are considered separately. The section begins with studies involving the DACOS, as this measure has been used most frequently in diagnostic studies.

Diagnostic Studies with the DACOS

The first two studies that followed the initial publication of the DACOS (Blatt et al., 1976) were case analyses in which the authors attempted to demonstrate the utility of the DACOS in making diagnostic and treatment decisions. In one of these studies (Blatt & Lerner, 1983) five cases involving patients with differing diagnoses were presented. The authors discussed each of the cases and how the patients' differing DACOS results corresponded to their different diagnoses and their different courses of treatment. In the second of these case analyses (Lerner, 1983), a systematic test-retest analysis was done of one patient's progress in psychotherapy. Progress in treatment was seen to correspond with increased articulation, differentiation, and integration of H responses, as measured by the DACOS. Despite the limitations of case studies, these two studies are of value to those interested in the use of the DACOS and its application to an individual; additionally, both of them appear to have led to later empirical studies.

The first empirical investigation with the DACOS and psychodiagnosis involved the study of patterns of object-relations in neurotic, borderline, and schizophrenic patients (Lerner & St. Peter, 1984a). This study was highly

complex and involved many comparisons and detailed post-hoc interpretations of the results. In addition to determining differences in patterns of object-relations, as assessed by the DACOS, among schizophrenic, in-patient borderlines, out-patient borderlines, and neurotic subjects, the authors were also particularly interested in adding clarity to the diagnostic category of borderline personality disorder. Consistent with the object-relations diagnostic continuum, the researchers predictedthat there would be an increase in DACOS scores from schizophrenic to borderline to neurotic subjects.

Regarding methodology, Lerner and St. Peter (1984a) selected Rorschach protocols from an unspecified number of subjects that had been used in a prior study. Seventy Rorschach protocols were selected, without the investigators specifying how these protocols were selected or if they were selected randomly. The protocols of out-patient subjects were taken from the records of a large, metropolitan clinic in which the clientele consisted primarily of young adults (16 to 30), who were Caucasian and of high-middle to upper socio-economic status. The protocols of the in-patient subjects were taken from a psychiatric hospital, with little detail given regarding procedure or diagnostic criteria. The protocols were then divided according to diagnosis into four groups: (a) 15 neurotic subjects, (b) 15 out-patient borderlines, (c) 21 in-patient borderlines, and (d) 19 schizophrenics. These groups were then matched on the variables of age, sex, and socioeconomic status. Rorschach protocols were scored with the DACOS, with inter-rater reliabilities of 70% to 93% across the DACOS dimensions and sub-dimensions. It was reported that the investigators were blind to diagnosis when scoring, but this may not have

been completely accurate in that the same researchers were involved in prior studies that utilized the same protocols. Statistical analyses were then performed on the DACOS scores across the groups, with separate analyses performed for accurate (FQ+) and inaccurate (FQ-) human responses. Characteristics of the data required the use of non-parametric statistics, and thus the data were analyzed by the Kruskal-Wallis form of analysis of variance with Mann-Whitney post-hoc comparisons. In respect to the Mann-Whitney contrasts, the investigators chose to adopt the $p < .05$ significance level instead of the more stringent $p < .01$ level. Because six different comparisons were made among the four different groups in the experiment (e.g., neurotics vs. schizophrenics, out-patient borderlines vs. in-patient borderlines), the choice of the .05 level led to too lenient (.30) significance for the entire experiment. Consequently, many of the results obtained could have been due to chance alone. In light of this and the fact that the number of comparisons in this study were so large, only the most general patterns and significant findings that emerged from the results are mentioned:

1. Consistent with the investigators' original hypothesis, with regard to accurately perceived responses, there was an increasing number of well differentiated, highly articulated, and integrated H responses from schizophrenic to borderline to neurotic patients.

2. A surprising, unexpected finding, although similar to some of Blatt et al.'s (1976) results, was that, with respect to inaccurately perceived responses, patients with higher levels of pathology, i.e., in-patient borderlines, achieved the highest DACOS scores. That is, on inaccurately

perceived responses, this patient group's responses were significantly more differentiated, articulated, and integrated than those of other groups.

3. When comparing the two borderline groups, out-patient borderlines were distinguished from the in-patient borderlines by offering more accurately perceived quasi-human (H) responses and by responses in which the content of interaction was less malevolent. In-patient borderlines, according to one of the most significant findings of the experiment, were particularly distinguished by perceiving greater malevolence in their H responses than any of the other groups, including the schizophrenic group.

Regarding the post-hoc interpretations of these results, Lerner and St. Peter (1984a) suggested that out-patient borderlines may be able to maintain higher levels of functioning and reality testing by defensive maneuvers of distancing and dehumanizing objects (in light of the finding that they perceived more quasi-human figures). This finding appears consistent with the often observed proclivity in these clients to alternately idealize and devalue others (e.g., Rinsley, 1989). Conversely, the investigators also suggested that in-patient borderlines do not appear to have access to such defenses and thereby have greater difficulty avoiding the types of regressive episodes that lead to hospitalization. They are evidently less able to distance or withdraw from their perceived bad-malevolent objects, and hence experience the world as more destructive (in light of the finding that in-patient borderlines saw more malevolent, inaccurate figures).

Investigators Lerner and St. Peter (1984a) concluded that there is a relationship demonstrated between characteristics of human responses on the Rorschach, as assessed by the DACOS, and distinct diagnostic patterns and

psychopathology. They in turn inferred that this lends support to the validity of the DACOS as an object-relations measure. However, as previously indicated, there were significant methodological limitations in this study. In addition to those already described, another significant limitation involves external validity. More specifically, the selective group of subjects chosen for the study, particularly the out-patient subjects, limits the generalizability of these results. Further, the lack of a group of normal controls prevents these results from being placed in the wider context of normality-pathology.

Lerner & St. Peter (1984b) attempted a replication study with the same Rorschach protocols, utilizing the same groups of subjects that were employed in the first study (Lerner & St. Peter, 1984a). They simplified the methodology of the previous study by including only certain dimensions from the DACOS for analysis. The dimensions they chose, i.e., accuracy, differentiation, and content of interaction (from the integration dimension), were those that results of the previous study had shown to be particularly discriminating. Lerner and St. Peter were seeking in this replication to clarify further the differences in DACOS scores between out-patient and in-patient borderlines. The researchers concluded that the results again demonstrated out-patient borderlines as having perceived more accurate, quasi-human figures, and in-patients as perceiving more inaccurate quasi-human responses. With respect to content, again it was the benevolence/malevolence dimension that most discriminated between groups. The study reported that fewer than 25% of all subjects gave a malevolent response, except in-patient borderlines who attributed malevolency to 42% of human and human-detail responses. With quasi-

human and quasi-human detail responses, however, in-patient borderlines ascribed malevolence to 94% of their responses. The same post-hoc interpretations were ascribed to these results, and many of the same methodological weaknesses of the first study were reiterated in this study. Again, external validity is extremely limited in that the same select group of subjects from the first study was again utilized in the second study. Moreover, as was true in the first, a normal control group was not used in the second study.

Piran (1988) investigated the borderline phenomenon in the Rorschach protocols of a group of anorexic and bulimic patients. She sought to compare certain aspects of these patients' psychological functioning, including object-representations, as assessed by the DACOS (Blatt et al., 1976). Piran cited theorists from a psychodynamic perspective who differed in their conception of which one of the two eating disorders is the more severe; that is, which one is the result of earlier developmental arrest. In her study, anorexic subjects ($\underline{n}$ = 31) and bulimic subjects ($\underline{n}$ = 34) were separated into two groups on the basis of respective DSM-III criteria. Subjects were 16 to 35-year-old females. Piran reported that the variables of age, chronicity, and socio-economic status were not significantly different between the groups. Piran did not indicate how this was determined, however. As a means for comparison and control, Piran simply stated that she used "norms or results obtained in other studies" (p. 365).

In addition to the DACOS, Piran (1988) scored the Rorschach protocols of the subjects with several other Rorschach-based scales that were designed to measure other aspects of psychological functioning. In terms of the

DACOS, scoring was accomplished independent of the other scales and inter-rater reliability was determined to range from 91% to 96%. The results of the DACOS revealed two significant differences between the bulimic and anorexic groups: (a) bulimics had a significantly greater frequency ($p < .05$) than anorexics of responses in which action was incorporated, and (b) a more striking difference was that bulimics gave significantly more responses ($p < .001$) than anorexics involving malevolent interaction.

Piran concluded that the results of all Rorschach scales suggested that both the anorexics and bulimics in her study "displayed a borderline level of personality organization" (p. 375). The results of the DACOS specifically resembled some of the results obtained by Lerner and St. Peter (1984a, 1984b). Just as in-patient borderlines in the Lerner and St. Peter studies had a significantly higher number of responses with malevolent content than did out-patient borderlines, the bulimic subjects in Piran's study had significantly more responses with malevolent content than had the anorexics. In conjunction with these results and those of the other scales, Piran observed that her results supported the position that bulimia was the more severe of the two disorders, in terms of its being the result of earlier developmental arrest.

Piran's study (1988) was an improvement upon earlier studies in that clearer, more specific diagnostic criteria were used to distinguish experimental groups. It is unfortunate however, that Piran did not utilize a comparison group of borderline personality-disordered subjects who were not also diagnosed with bulimia or anorexia. Moreover, the study lacked a non-

clinical comparison group, and thus failed to control for the presence of general pathology.

It was mentioned above that the general consensus among object-relations theorists regarding the developmental, diagnostic continuum for psychopathology is that narcissistic disorders represent a less severe form of personality disturbance than borderline disorders. One study reviewed above (Lerner & St. Peter, 1984a) demonstrated some support for the diagnostic continuum in regard to schizophrenic, borderline, and neurotic disorders, but narcissistic disorders were not considered in that study. Farris (1988) attempted to address the issue of differences related to severity between narcissistic and borderline disorders. He predicted that borderline subjects would reveal greater disturbance in object-relations, defensive organization, and developmental level than narcissistic subjects. Consistent with the focus of the present review, the measure and the results pertaining specifically to object-relations are discussed.

Using several Rorschach scales, Farris (1988) compared narcissistic and borderline subjects who had either been treated on an in-patient or out-patient basis at a psychiatric hospital in a large metropolitan area. Groups of narcissistic and borderline subjects were formed on the basis of DSM-III criteria, and pairs ($N = 9$) of subjects were matched for age, sex, socio-economic status, and patient status. Unlike any of the prior studies considered in this review, two coders, Farris himself and a co-rater, practiced scoring until inter-rater reliabilities met the standard of a minimum Kappa statistic of $K = .60$. After this standard was achieved, the author alone performed the scoring of all scales used in the study. A total object-relations

score was derived for each subject by summing the scores on the key scale dimensions of differentiation, articulation, and integration. A comparison of the narcissistic and borderline groups' mean scores by *t* tests revealed that the narcissistic subjects achieved significantly higher DACOS scores ($t = -2.48$; $p < .01$) than the borderline subjects. The significant differences between groups on the DACOS were replicated with the other measures, and Farris' hypothesis was largely confirmed.

Strengths of Farris' study are evident in his use of clear diagnostic criteria, his matching of subject pairs to control for extraneous variables, and his use of the more stringent Kappa statistic for determining inter-rater reliability. Limitations of the study are (a) the small N, which limits the generalizability of the findings; (b) the fact that the DACOS and the other Rorschach scales were scored only by the investigator himself who was not blind to the purpose of the study; and (c) especially the lack of any type of control group, which could have allowed for speculation beyond merely the differences between narcissistic and borderline pathology.

The last study to be reviewed in this section is, in the present author's opinion, the soundest methodologically. The particular strengths and unusual features of Stuart et al. 's (1990) study, in comparison to the other studies reviewed include: (a) the utilization of a group of normal control subjects; (b) the utilization of stringent and reliable criteria for diagnosis and formation of experimental groups; and (c) the use of independent, double-coding by raters blind to diagnoses of subjects. Stuart and associates were particularly interested in the surprising results of some earlier studies (Blatt et al., 1976; Lerner & St. Peter, 1984a, 1984b) in which borderline patients

produced developmentally advanced, inaccurate responses, and in which they produced a significantly greater number of malevolent responses than even schizophrenic subjects who were supposedly at a lower developmental level than borderlines. Stuart et al. interpreted these results as questioning the global continuum view of psychopathology. They proposed that a distinction between cognitive and affective components of object-relations functioning (and, therefore also in object-relations measures) was called for. Their study then was an "effort to elucidate cognitive and affective processes underlying the interpersonal pathology of borderline patients" (p. 297).

Samples of borderline and depressed subjects were selected from a large pool of inpatients according to the diagnostic criteria set forth in the Diagnostic Interview for Borderlines (Gunderson, Kolb, & Austin, 1981) and the Research Diagnostic Criteria (Spitzer, Endicott, & Robins, 1975). Kappa ratings of .78 and .88 respectively were obtained, indicating reliability of diagnosis. Three experimental groups were formed: (a) a group of pure depressives (n = 13); (b) a group of pure borderlines (n = 9); and (c) a group of borderlines who were also depressed (n = 12). The normals were recruited from a large city population, and were screened to rule out character pathology through a phone interview, the administration of the MMPI, and a self-esteem inventory (n = 30). All subjects were administered the Rorschach, and the DACOS was then applied to the appropriate Rorschach data. All dimensions of the DACOS were scored, and the Kappa statistics for inter-rater reliability ranged from .62 to .92.

Stuart et al. (1990) reported that the results of a multivariate ANOVA demonstrated highly significant differences between the groups' DACOS

scores. Two ANOVAs with different grouping schemes were performed, followed by post-hoc correlations of two intriguing results yielded by the ANOVAs. In the first ANOVA, comparing all four groups of subjects, the DACOS sub-dimension of motivation of action varied signficantly across all three diagnostic groups ($F[3,56] = 3.51$, $p < .02$), with subjects who were both borderline and depressed ascribing significantly greater motivation to figures in action than normal subjects, pure borderline subjects, and pure depressive subjects. The DACOS sub-dimension of content of action also varied significantly across diagnostic groups ($F[3,56] = 3.92$, $p < .01$), with pure borderline subjects portraying interaction as more malevolent than normal subjects; and with subjects who were both borderline and depressed portraying interaction as more malevolent than normal subjects and pure depressive subjects. In the second ANOVA, comparing only three groups of subjects, i.e., borderlines (both depressed and non-depressed), depressives, and normals, the content of interaction variable was again significantly different across groups ($F[2,57] = 5.95$, $p < .0045$), with borderlines portraying interaction as more malevolent than depressives and normals. Investigating further these findings regarding the dimensions of motivation of action and content of action, post-hoc comparisons revealed that: (a) in pure borderlines' responses, highly motivated action corresponds with malevolent content ($r = .-64$; $p < .05$); and (b) in pure depressives' and normals' responses, highly motivated action corresponds with benevolent content ($r = .63$; $p < .05$).

The above results are very similar to the results of Lerner & St. Peter's (1984a, 1984b) earlier study, however, Stuart et al. (1990) arrived at some different conclusions. First, based on these results, Stuart et al. suggested that

borderline personality disorder is not merely a variant of a mood disorder. Second, the investigators suggested that the data reveal important distinctions between cognitive and affective components of object-relations pathology. The researchers indicated that borderline subjects are, according to DACOS' scores, able to construe human interaction as highly motivated, and that this ability reveals cognitive sophistication and not developmental arrest. Conversely, though borderline subjects, according to DACOS scores, have a strong tendency to construe human interaction as malevolent, this finding does imply developmental arrest with regard to an affective dimension. According to Stuart et al. (1990): "Clearly, it is important to distinguish between cognitive and affective components of object-relations, rather than refer globally to object-relational development" (p. 312). This appears to be a particularly important and thought-provoking finding, with potentially strong implications for object-relations theory and the understanding and treatment of borderline pathology.

Concluding comments. Based on consideration of these diagnostic studies with the DACOS, the research has progressed from studies not well controlled to some more recently that are better controlled and display greater empirical sophistication. The last study reviewed reveals some strong methodological improvements. In general, diagnostic studies with the DACOS have demonstrated that it has some usefulness in differentiating various diagnostic groups. Moreover, in support of its validity, the studies have revealed that some of the DACOS scores have corresponded as expected with various diagnoses. One of the variables of the DACOS that has emerged with particular discriminative power is that of content of interaction. What

has been demonstrated is that this variable, as it relates to borderline pathology, corresponds with both generally held clinical knowledge about borderline patients (e.g., Cohen & Sherwood, 1989) and with the theory about the etiology of the disturbance (e.g., Mahler et al., 1975; Rinsley, 1982). Thus, the validity and utility of the content of interaction variable on the DACOS appear particularly strong, relative to the other variables.

Diagnostic Studies with the MOAS

Studies with the MOAS in the area of diagnostics are distinct from studies with the DACOS in several ways. First, the studies utilizing the MOAS are more limited in number than those utilizing the DACOS. Second, because any type object-relationship (i.e., human, animal, or inanimate object) in a Rorschach response is scorable with the MOAS, and not a human response only as with the DACOS, the MOAS has been used in studies of child, as well as adult, populations. Third, unlike the DACOS, the MOAS has not been used in the study of broad diagnostic categories such as borderline or narcissism. Instead, the MOAS has been used in the study of more circumscribed disorders. As described in a previous section, the MOAS has demonstrated some criterion related validity. Studies have demonstrated some significant correspondence with such criteria as autobiographical ratings (Urist, 1977), clinical ratings (Urist & Shill, 1982), and future adjustment (Tuber, 1983). MOAS studies with diagnostic criteria are now considered.

One study utilizing the MOAS investigated the possibility that transsexualism is a disorder with similarities to borderline personality disorder (BPD). Murray (1985) operationalized Kernberg's (1975, 1976) criteria for BPD and then used various Rorschach-based measures that showed some

capacity for assessing these criteria. Significant impairment in object-relations is one of Kernberg's essential criteria for BPD and to measure this, Murray chose the MOAS. In this study Murray used three subject groups: (a) male college students (n = 25) presumed to be functioning in the normal range as defined by Kernberg, (b) transsexuals (n = 25) selected from 125 patients who had presented for sex-reassignment surgery at a large hospital, (c) borderlines (n = 18) selected from two in-patient facilities diagnosed along Kernberg's criteria. The mean object-relations score (MOR) was calculated between two raters for the groups, with an inter-rater reliability of 74%. The MOR of the transsexual group was found to be significantly higher than that of the normal group (t[48] = 2.89; p <.01), with the MOR of the borderline group significantly higher than the normals as well (t[41] = 2.35; p <.05). There was not a significant difference found between the transsexual and borderline groups. Upon further examination of transsexuals' and borderlines' MOAS scores, the means were found to be 3.6 and 3.49 respectively, which was not due to a clustering of scores at MOAS points of 3 or 4, but rather of occasional scores of 2, accompanied by the more maladaptive scores of the 5, 6, or 7.

The methodological problems of the study included the ambiguous diagnostic criteria, the lack of matching between groups, and the lack of a clinical comparison group. Most problematic was that the same Rorschach protocols used for the purpose of diagnoses of BPD and placement in borderline subject groups were also used for the MOAS. This, then, would have likely resulted in confounding of the independent and dependent variables. Nevertheless, the inter-rater reliability of the MOAS was again found to be good, and it was able to distinguish between normals and two

groups with diagnosed pathology, and presumably different levels of object-relations development. This result in turn offers some support for the validity of the measure.

Murray's (1985) study addressed gender disturbance in adult males. The MOAS has also been used in three studies of gender disturbance in children (Coates & Tuber, 1988; Tuber & Coates, 1985, 1989). The authors of these studies reported significant differences in the MOAS scores and patterning of scores between gender-confused boys and non-gender confused controls. In further support of the MOAS' validity, the patterning of responses demonstrated consistency with what has been observed clinically in these boys (Coates & Person, 1985), which is that they have a strong tendency to overidealize women and maternal figures and to depreciate and be fearful of male figures. Qualitative analysis of the MOAS' scorable responses revealed that when gender confused subjects received the more adaptive MOAS scores of 1 and 2, a female was involved. In contrast, when gender confused subjects produced responses that received the more maladaptive scores of 5, 6 or 7, in almost all cases, a male, quasi-human figure (e.g., "Frankenstein" or "Dracula") was depicted (Coates & Tuber, 1988).

The MOAS was also utilized in a study of boyhood separation anxiety disorder (SAD) (Goddard & Tuber, 1989). The study included two groups of subjects: (a) SAD boys (n = 19), seen in an urban, psychiatric clinic, and diagnosed by DSM-III criteria, apart from test data, and (b) normal male controls (n = 14), from local schools, with psychiatric, academic, and social difficulties ruled out. The groups were not found to be significantly different on the variables of age, IQ, socio-economic status, grade, number of siblings,

and family intactness. According to object-relations theory, it was conceptualized that SAD boys experience distress when separated from significant caregivers due to deficits in the separation-individuation process. More specifically, it had been theorized that they have difficulty functioning autonomously because of not being able to sustain an internal object-representation of a benign and soothing other. Thus, in this study, it was expected that the MOAS would reflect greater object-relations pathology in SAD boys than in controls, and that the MOAS scores would also reflect SAD boys' dependency needs. Scoring with the MOAS, done by raters blind to diagnosis and purpose of the study, resulted in a good inter-rater reliability figure of 80%. Statistical analysis by Mann-Whitney U Tests revealed that: (a) SAD boys, in contrast with controls, had significantly poorer mean object-relations scores ($z = 1.92$; $p < .05$); (b) SAD boys received significantly fewer of the most adaptive score of 1 ($z = 2.16$; $p < .05$); (c) SAD boys produced significantly more of the MOAS score that reflects dependent, clinging interaction--3 ($z = 3.12$; $p < .05$). These results lent support to the investigators' hypotheses and to the validity of the MOAS, as its scores corresponded to some characteristics that had been observed clinically in SAD boys. However, the fact that the subject pool was relatively small, and that the disorder studied is of relatively low incidence, the generalizability of these results and this conclusion is limited.

The final diagnostic study utilizing the MOAS to be considered is one that investigated autonomy disturbance in anorexic patients. Strauss & Ryan (1987) sought to provide empirical support for what various clinicians and theorists had observed regarding the key role of autonomy difficulties in the

disorder of anorexia nervosa. The MOAS and three other measures relevant to the construct of autonomous functioning were administered to three groups of Caucasian women, 16-31 years of age: (a) anorexics (n = 19), (b) bulimic-anorexics (n = 14), and (c) controls (n = 19). An ex-post facto design was implemented in the study, as subjects were matched for age, education, and marital status. The MOAS was reported to have been reliably scored, according to an inter-rater reliability of .98. The mean, highest, and lowest MOAS scores were compared between groups (low MOAS scores, e.g., 1 or 2 suggest healthier object-relations, and high MOAS scores, e.g., 6 or 7 suggest greater pathology). The results, according to a univariate ANOVA, were that the mean MOAS scores of both anorexic groups were significantly higher than that of controls ($F[2,42] = 6.02$; $p < .005$); and, that both anorexic groups' highest MOAS scores were significantly higher than the highest scores of controls ($F[2,42] = 7.87$; $p < .001$).

Several other studies utilizing at least two subject groups did not involve the matching of subjects on extraneous variables, as did Strauss & Ryan's study (1987). Thus, the subject matching, characteristic of an ex-post facto design, strengthened its methodological characteristics and represented an improvement over several other MOAS diagnostic studies. Once again, in this study the MOAS was shown to be reliably scored. Regarding the validity issue, the results with the MOAS showed some consistency with theoretical and clinical observations of anorexic patients and their experience of autonomy.

Concluding comments. These diagnostic studies indicate that the MOAS is able to differentiate normal controls from transsexuals and

borderlines (Murray, 1985) from gender-disturbed boys (Tuber & Coates, 1985, 1989; Coates & Tuber, 1988) and from anorexics and bulimics (Strauss & Ryan, 1987). These studies, in comparison to those with the DACOS, have involved much more discrete diagnostic categories. Because MOAS studies have not yet involved the broader diagnostic categories of object-relations theory that have been involved in DACOS studies, some have labeled the MOAS more a measure of pathology than of object-relations (e.g., Strickey & Healey, 1990). This appears to be a moot distinction, however, as object-relations theory is so closely associated with theory about psychopathology and diagnosis that to some extent any measure of object-relations will address psychopathology as well. Some support for the validity of the MOAS has been demonstrated by its ability to distinguish between a few types of patients who have been observed to have deficits in their capacity for autonomous functioning. However, to establish its validity related to the criterion of diagnosis more firmly, the use of larger sample sizes and more diverse populations in MOAS research is needed.

Additional Commentary

Empirical studies on the use of the Rorschach in the assessment of object-relations have been critiqued. The primary focus of this review has been on studies with the two prominent, Rorschach-based measures that have been developed, researched, and applied in clinical contexts. The validity of these measures has been an overriding concern and, study-by-study, methodological strengths and weaknesses have been noted. In this section additional points relevant to this area of research are discussed.

In the present author's opinion, a strength of the research is that it has contributed somewhat to the empirical base and refinement of two subjects--the Rorschach and object-relations theory--that have been difficult to research by traditional empirical means (Hamilton, 1989; House, 1990; Howard, 1989). Another strength of the research is its clinical utility. Object-relations theory has been found by many to be clinically useful, especially with difficult-to-treat clients (Hamilton, 1989), and the Rorschach has remained a popular assessment tool (Lubin et al., 1984). Endeavoring to develop a means of assessing object-relations with a tool with which many psychologists are already familiar, and in turn to apply this knowledge in the service of more informed and effective treatment, is a commendable pursuit.

Regarding limitations of this research, it is recognized that object-relations theory posits causal relationships between object-relations, development, and psychopathology. However, the studies in this area of research can only be correlational because the nature of the variables involved does not allow for experimental manipulation. Therefore, causal relationships proposed by object-relations theory cannot by supported with the current state of the research. Other more narrow limitations are that few studies in this area have involved the use of adequate control or comparison groups or have involved the use of adequate sample sizes. Finally, the studies have been directed primarily to validity issues of the DACOS and the MOAS. However, in the establishment of a new measure, validity is secondary to the establishment of reliability (Kazdin, 1980; Wood, 1977). Thus, one last limitation to be noted is that no attempts have yet to be made

to establish the reliability of these scales in any other manner than by inter-rater reliability.

In the present author's analysis, there is one other particularly glaring limitation regarding this area of research. This limitation is evidenced by the fact that the research does not even minimally take into account the contributions to the Rorschach made by Exner and the Comprehensive System. Neither of the two prominent Rorschach-based measures, the DACOS nor the MOAS, derive from the Comprehensive System. This is problematic on two counts. First, as explained in the earlier Rorschach history and theory section, there are empirical deficiencies with other systems and with the psychoanalytic approach from which the measures derive. Second, it is the Comprehensive System that is most widely used and taught within the field of clinical psychology (Howard, 1989; Lubin et al., 1984); and thus these measures, coming from a different approach, are not as likely to be utilized by many in the psychological community. This would appear to be compounded by the fact that the measures, especially the DACOS, appear very difficult to use. Therefore, in consideration of both the value and the limitations of the research on the object-relations approach to the Rorschach, and in consideration of the prominence of Exner's approach, it would appear especially valuable to speculate on how the two approaches could interact for the more thorough use of the test and assessment of the individual. The remainder of this review is therefore devoted to the exploration of how the two approaches might interface.

The Comprehensive System and the Assessment of Object-Relations

At present, there are essentially two approaches to the Rorschach. One, founded on psychoanalytic theory and the work of Rapaport (1946), has formed the basis for research on the use of the Rorschach in the assessment of object-relations. The other approach to the Rorschach developed by Exner is the more widely used and empirically robust approach (Leiter, 1989; Lubin et al., 1984; Piotrowski, 1985). There appears to have been very little interaction between these two approaches. Instead, there appears to be a schism between these two approaches, similar to one that existed in the history of the Rorschach between the early systematizers. In the present author's opinion, such a schism is unfortunate in that it is an impediment to the more extensive and exhaustive use of the instrument. Explored in this section is how the Comprehensive system could conceivably interface with the research on the assessment of object-relations. Three facets are addressed: (a) a recent Exner study that is applicable to the area of research on the assessment of object-relations, (b) some variables from the Comprehensive System that appear to be especially relevant for someone examining Rorschach data from an object-relations stance, and (c) how a Rorschach based object-relations measure may be incorporated into and used supplementally with the Comprehensive System.

The Rorschach as a Projective or Objective Personality Measure

It was discussed at the outset of this review that an assumption held by those employing the psychoanalytic approach to the Rorschach is that it is a projective instrument. The administration procedures are consistent with

the projective assumption, and the interpretation proceeds on the premise that projection has occurred in every response.

Exner (1989) investigated the validity of this assumption and the place of projection in the Rorschach test, and his work is of particular relevance to this area of object-relations research. Earlier work on the response process (Exner, 1986a) had revealed that it basically involves cognition and perception, but not projection. The results of this later study showed that projection does occur occasionally, but only at select times and only with some types of responses. Two types of responses were shown to involve projection. First, responses that have departed significantly from the blot contours and thus have been classified as minus-form quality (FQX-) may involve projection. The likelihood of projection having occurred increases with a significantly higher than average number of such responses having been given, e.g., the average number of FQX- responses from the normal adult standardization pool is about one, with a standard deviation of one (Exner, 1990). Second, a response that is embellished or overdeveloped in some way may involve projection. Such responses are most often scorable by three "special content" scores: (a) Mor, a morbid response in which contents are described as damaged or injured in some way; (b) Ag, an aggression response in which present aggressive action is occurring as described in the response; and (c) Cop, a cooperative movement response in which figures in the response are described in some mutual, collaborative activity. Again, the possibility that projection may have occurred increases when these types of responses have occurred at significantly higher than normal frequencies.

The results of the above study are particularly important to consider in research on the assessment of object-relations with the Rorschach as they appear to provide some important parameters. As mentioned before, the studies reviewed in this paper are based on the assumption that the Rorschach is exclusively a projective instrument and is therefore capable of tapping into the intrapsychic aspect of object-relations. In his research in this area, Exner (1986a, 1989) presented data that suggest significant limits to this assumption. These limits or parameters need to be identified as they provide a means of preventing the contamination that may occur, or the measurement error that may occur, in the use of the Rorschach-based object-relations measures when responses are included and evaluated that have not resulted from projection. It is conceivable that if such parameters were applied, there could be improvement in the discriminative and predictive powers of the Rorschach-based measures. For example, with the MOAS, instead of scoring all relationship responses, only those responses that met either of the two criteria specified in the Exner (1989) projection study would be scored. It appears that Exner's study has provided a solid basis for identifying these parameters, but further research on the application of these parameters is needed.

Object-Relations Relevant Variables from the Comprehensive System

Whereas Exner maintained an atheoretical stance toward the Rorschach, he did state that knowledge of personality theories is an important prerequisite for the thorough interpretation of the instrument (Exner, 1986a). With information from object-relations theory and its constructs, it is possible

certain variables and ratios have particular significance for the enhancement of Rorschach interpretation.

Exner posited that the cardinal rule of interpretation of the Rorschach within the Comprehensive System is to begin with data that is the most robust empirically and to use qualitative data as supplemental and corroborative. The most robust empirical data is contained in the ratios, percentages, and derivations that comprise the Structural Summary. Of the variables that make up the Structural Summary, several are consistent with object-relations constructs and concepts. According to object-relations theory, the quality of human relationships of which an individual is capable is impacted directly by the separation-individuation process and by self- and object-representations. The first important variable then, following from these concepts, is the human movement, or M, response. In Exner's explanation (1986) of this response, he stated that it involved some projected elements as there is no actual movement occurring in the blot. Moreover, in light of earlier research (e.g., Frieswyk & Colson, 1980; Mayman, 1967), both the number of M responses and the form-quality of those responses is associated with interpersonal effectiveness and adaptive functioning.

In connection with the M response the aforementioned Cop score is assigned to movement responses that involve cooperation and mutual interaction. Recent research has demonstrated that the presence of at least one or two such responses in a record is also associated with interpersonal effectiveness and the absence of them is associated with pathology (Exner, 1991). Thus, the clinician may consider the number and form quality of M responses and whether or not these responses involve cooperative

interaction for hypotheses formulated in respect to an individual's maturity of object-relations.

The second important variable deals with the concept of the sense of self and capacity for autonomous functioning. This variable is the egocentricity index (3r+(2)/r). According to the Comprehensive System, when this variable is significantly beyond the mean for the normal standardization group it is suggestive of deficits with respect to the subject's self-esteem. Deficits in self-esteem are theoretically connected with problems in self-cohesion. Thus, the clinician may consider the (3r+2/r) index for hypotheses regarding extent of self-cohesion, coupled with the capacity for autonomous functioning. Recalling the concept that capacity for control of affects is one result of successful separation-individuation, a third set of key variables are those associated with affect, i.e., the FC:CF+C and the EB ratios. The EB ratio deals with how much the subject involves affect in his/her coping and problem solving style. The FC:CF+C ratio deals with how well affective displays are modulated. Thus, the clinician may refer to these variables for indications about affect use and control that may in turn be a reflection of the maturity of object-relations. A fourth set of key variables include the critical D and AdjD scores in the Comprehensive System; these variables relate basically to long and short-term capacity for control and stress tolerance. If both the D and AdjD scores are below zero, this could be interpreted, according to Exner (1986b), as a reflection of immaturity of personality functioning. Immaturity in personality functioning could, in turn, be indicative of developmental arrest occurring during the separation-individuation process and the psychopathology that may have resulted.

The above constitute some possible key variables to be noted when considering the Structural Summary data from an object-relations perspective. In one study, Exner (1986b) demonstrated that these variables are of significance in differentiating borderline personality disorder (BPD) subjects from schizophrenic and schizotypal subjects. From the significant differences in this constellation of variables, Exner concluded that borderline personality may be more accurately referred to as "inadequate personality" or "immature personality." The term and conclusion appear consistent with the object-relations position that BPD results from a stunting of or arrest in psychological development or maturation (e.g., Cohen & Sherwood, 1989; Mahler et al., 1975).

Possibilities of Supplementing the Comprehensive System with Rorschach-based Object-Relations Measures

According to the Comprehensive System, interpretation begins with the quantitative data of the Structural Summary as it contains the most empirically robust elements. Secondary interpretation comes from the analysis of the sequence of scores, while tertiary interpretation derives from the qualitative analysis of the verbal material or the content of the responses. It is in this third interpretative component--the qualitative analysis of verbal contents--that the possibilities for interaction between the Comprehensive System and object-relations measures are the clearest. Similar to Exner's revolutionary developments in the systematization of the Rorschach as a whole, Blatt's DACOS (1976) and Urist's MOAS (1977) can be considered attempts at the systematization of content analysis. One final way in which some of the research on the Rorschach and the assessment of object-relations can interface with the Comprehensive System is through qualitative content

analysis supplemented by one of the Rorschach-based object-relations measures.

Of the two prominent Rorschach-based measures, it appears that the MOAS would be most adaptable to the Comprehensive System for several reasons. First, there is an important procedural link between the Comprehensive System and Klopfer's system, which has been used most often with the MOAS. Klopfer's principles for administering the Rorschach were adopted by Exner for his Comprehensive System, and thus the protocols resulting from the two systems are the same. In contrast, the DACOS has been used exclusively with the Rapaport system. Therefore, as a result of different administration procedures, the Comprehensive System and the Rapaport system produce two very different protocols (Exner, 1969). Second, there is the conceptual link between the Comprehensive System and the MOAS in that the MOAS considers for analysis all relationship responses. In such responses, movement is likely to be involved, and, as previously stated, Exner described the movement response as technically manifesting projection. Third, there is the fact that the DACOS is a much more cumbersome and involved measure compared to the MOAS. Related to this point, diagnostic studies using the DACOS have consistently revealed the content subdimension as having some of the most discriminative power of all the DACOS scoring categories. The content subdimension is in turn very similar to the MOAS, as it is thematic content that is scored exclusively when using the MOAS. Thus for the above reasons, the MOAS appears to be the measure that is more readily incorporable with the Comprehensive System.

In keeping with the results from Exner's study of projection (Exner, 1989), it is proposed that those responses involving significant distortion or embellishment could be analyzed according to the MOAS scale points to arrive at certain hypotheses regarding the subject's object-relations. The value of such interfacing is that in so doing, the Rorschach could be used to a much greater and more thorough degree in the understanding of the client's personality structure and functioning, especially in evaluating aspects of his or her interpersonal relationships. In support of such a proposal, Exner (1986a) stated that:

> The full value of the Rorschach is realized only from the complete sum of its parts. A neglect of any available Rorschach data, whether quantitative or qualitative [italics added], is an abuse of the test and a disservice to the subject. (p. 82)

An application of the MOAS to response content could help extract more important information from Rorschach data and therefore enable the test to be utilized in an even more complete way.

Conclusion

A complex, clinically relevant area of research has been critically explored in this review. In light of its current status, the present writer's fundamental conclusion is that possibly the most promising and profitable aspect of this area of research is how it may be used in conjunction with Exner's Comprehensive System. The Comprehensive System, supported by contributions from the research on the Rorschach and object-relations, could make the Rorschach an even more diverse and clinically valuable assessment tool. Furthermore, an understanding of how the Comprehensive System may interface with this research could in turn lead to consideration of the

assessment of object-relations by a much broader cross-section of the psychological community. Were a larger number of clinicians informed of the potential value of object-relations assessment, it is conceivable that the result would be more accurate diagnostic formulations and more effective treatment in a greater number of cases.

Indeed, in this area of research, the time-honored axiom that enhanced diagnosis leads to more informed treatment is once again demonstrated (Kissen, 1986; Tuber, 1989a). This issue of enhanced treatment is especially timely with the increasing focus within the health care system of more limited, briefer, pragmatic, and more cost-conscious forms of treatment. While this focus in turn has perhaps contributed to a decline in the predominance of longer-term psychodynamically-oriented psychotherapies, they nevertheless remain a potent force in the clinical community (Wetzler, 1989). Hamilton (1989) suggested in his review and analysis of object-relations theory that the theory has greatest utility and applicability in the treatment of more severe personality disturbances. It is in turn widely held that treatment of such disturbances or disorders is not only very difficult but is especially demanding of the clinician. By utilizing Rorschach data to some degree for object-relations assessment at the outset of a patient's treatment, the clinician could be alerted to (a) the possibility of an underlying personality disorder (Smith, 1980), (b) the nature of possible therapeutic impasses (Gorney & Weinstock, 1980), and (c) the nature of potentially turbulent transference and countertransference scenarios. In being alerted to any of these issues, the clinician would be better prepared to offer services in an efficient and expeditious manner (Lerner, 1983; Lerner & Lerner, 1988).

In the present review, the controversy regarding the Rorschach as an objective or projective personality measure has been highlighted. Exner's research strongly supports the conclusion that the Rorschach is primarily an objective assessment device, with some sound psychometric properties. The research on the assessment of object-relations has offered some support for the conclusion that the Rorschach has some potentially strong projective capacities as well. However, Exner has posited and shown that the Rorschach is much more than a projective device (Exner & Martin, 1983). At the same time, Rorschach object-relations research has helped demonstrate that the Rorschach may also be much more than an objective device.

In the present author's overall evaluation, it is concluded that the Rorschach is indeed an intricate assessment tool, with both objective and projective features. According to Exner's research and the research reviewed above, the Rorschach has the capacity for assessing broad and central personality dimensions of cognition, perception, and object-relations. While some object-relations theorists may neglect cognitive and perceptual factors in their understanding of the human personality and development, some do not and instead attribute critical roles to cognition and perception (e.g., Horner, 1984, 1991). For those object-relations informed psychologists who do not neglect these factors in their understanding and treatment of clients, the Rorschach would appear to be an optimal assessment tool. Most apropos is Macarthur's (1972) statement regarding the Rorschach: "The Rorschach continues to provide the richest behavior sample we know how to collect" (p. 440).

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